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AMSAT NEWS SERVICE
ANS-059

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-059 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 059.01
  From AMSAT HQ Kensington, MD.
February 28, 2016
To All RADIO AMATEURS
BID: $ANS-059.01

eBay Donations for AMSAT

Are you an eBay seller? One item, ten items, or a full-time business you can donate a percentage of your winning bid to AMSAT. To do so, do not list your item with the basic listing tool, select advanced tools. eBay will give you a warning message that it is for large volume sellers, however this is where the eBay for Charity tool is found.

You can 'select another nonprofit you love' and search for either AMSAT or Radio Amateur Satellite Corporation. Choose the percentage amount of the sale you would like to donate to AMSAT and boom. When your item sells and the winning bidder pays, eBay will deduct the percentage from your take and forward it to AMSAT.

Sometimes we are getting rid of our old equipment, sometimes selling something new. In any case, won't you consider giving a piece of the pie to a new satellite and choose AMSAT for your eBay for Charity.

[ANS thanks Bruce, KK5DO, for the above information]

Upcoming ARISS Contact Schedule

Gesamtschule Leverkusen Schlebusch, Leverkusen, Germany, direct via DLØIL
The ISS callsign is presently scheduled to be OR4ISS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Mon 2016-02-29 12:05:58 UTC 78 deg

National Urban Alliance for Effective Education (NUA), Syosset, New York, telebridge VK5ZAI
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Tim Kopra KE5UDN
Contact is a go for: Tue 2016-03-01 16:45:18 UTC 53 deg

Powys Secondary Schools, Mid Wales, UK, direct via GB4PCS
The ISS callsign is presently scheduled to be GB1SS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Sat 2016-03-05 10:55:19 UTC 59 deg

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The next window to submit a proposal for an upcoming contact is now open. The window is open from 2016-02-15 to 2016-04-15 and would be for contacts between 2017-01-01 and 2017-06-30.

Check out the ARISS website http://www.ariss.org/ or the ARRL website http://www.arrl.org/hosting-an-ariss-contact for full details.

[ANS thanks Charlie, AJ9N, for the above information]

Satellite DXCC Nearly 20 Years in the Making

It took nearly 20 years, but AMSAT Vice President of Operations Drew Glasbrenner, KO4MA, finally qualified for Satellite DXCC. Glasbrenner submitted the requisite number of QSLs for checking at the Orlando HamCation February 12-14, and ARRL Media and Public Relations Manager Sean Kutzko, KX9X, verified KO4MA's achievement.

"It's been a long process getting to satellite DXCC," said Glasbrenner, who got into satellite operating around 1993, and was only on RS-12 (Mode K) for a long time. "This was the Russian satellite payload that used 15 meters up, and 10 meters down," he explained.

His activity stagnated for a long time during and after his college years, but in 1999 he got involved in working the LEO satellites, such as UO-14 and AO-27, "then FO-20 and FO-29 for a little more distance, and then on the perigee passes of AO-10, when it was still semi-usable," he added.

"When AO-40 was launched into a high-Earth orbit, I dove into Mode U/S with gusto," Glasbrenner recounted. During the 3 years that AO-40 was active, he spent many late nights and early mornings looking for the next new one.

“Eventually I was using a 3 foot solid dish with preamp and
downconverter for
the Mode S downlink, and this is when some of my most exciting contacts
came.”

Highlights included working VU2MKP at a few degrees of elevation to the
east,
right after the satellite came up, and working KH2GR in the other direction,
“while the satellite was off-pointing and the spin fades were
horrendous, and
timing each call during peaks.”

When AO-40 went silent, Glasbrenner said he was about a dozen short of
DXCC, and
he realized that he’d have to be proactive to finish up with just LEO
satellites. Many of his new ones came from operators who went the extra
mile to
operate from places like the Caribbean and Greenland.

“The absence of operational HEO satellites makes satellite DXCC nearly
impossible for newer operators,” he said, “but I'm confident that continued
membership and support of AMSAT by any operator interested in satellites
will
result in the successful return to high orbit by one of the several
opportunities currently being pursued by the organization. Strike while
the iron
is hot!”

Bernhard Dobler, DJ5MN, has been at the top of the DXCC-Satellite standings
since 2000, and has 274 entities confirmed.

{ANS thanks ARRL and Drew, KO4MA, for the above information]

2016 AMSAT Field Day

It's that time of year again; summer and Field Day! Each year the American
Radio Relay League (ARRL) sponsors Field Day as a “picnic, a campout,
practice
for emergencies, an informal contest and, most of all, FUN!” The event
takes
place during a 24-hour period on the fourth weekend of June. For 2016
the event
takes place during a 27-hour period from 1800 UTC on Saturday June 25, 2016
through 2100 UTC on Sunday June 26, 2016. Those who set up prior to 1800
UTC on
June 25 can operate only 24 hours. The Radio Amateur Satellite Corporation
(AMSAT) promotes its own version of Field Day for operation via the amateur
satellites, held concurrently with the ARRL event.

With the loss of AO-51, VO-52 and SO-67 this year it is going to be as
challenging as last year. A few new satellites are up there to take some
of the
load. If you are considering ONLY the FM voice satellites like SO-50 for
your
AMSAT Field Day focus. Don't, unless you are simply hoping to make one
contact
for the ARRL rules bonus points. The congestion on FM LEO satellites is
always
so intense that we must continue to limit their use to
one-QSO-per-FM-satellite.

This includes the International Space Station. You will be allowed one QSO if
the ISS is operating Voice. You will also be allowed one digital QSO with the
ISS or any other digital, non-store-and-forward, packet satellite (if operational).

It was suggested during past field days that a control station be allowed to coordinate contacts on the FM satellites. There is nothing in the rules that would prohibit this. This is nothing more than a single station working multiple
QSO’s. If a station were to act as a control station and give QSO’s to every other field day station, the control station would still only be allowed to turn
in one QSO per FM satellite while the other station would be able to submit one
QSO.

The format for the message exchange on the ISS or other digital packet satellite
is an unproto packet to the other station (3-way exchange required) with all the
same information as normally exchanged for ARRL Field Day,
e.g.:
W6NWG de KK5DO 2A STX
KK5DO de W6NWG QSL 5A SDG
W6NWG de KK5DO QSL

If you have worked the satellites on Field Day in recent years, you may have noticed a lot of good contacts can be made on some of the
less-populated, low-
earth-orbit satellites like FO-29, AO-7, or AO-73. During Field Day the transponders come alive like 20 meters on a weekend. The good news is that the
transponders on these satellites will support multiple simultaneous contacts.
The bad news is that you can't use FM, just low duty-cycle modes like SSB and
CW.

THE 2016 AMSAT FIELD DAY RULES

The AMSAT Field Day 2016 event is open to all Amateur Radio operators. Amateurs
are to use the exchange as specified in ARRL rules for Field Day. The AMSAT competition is to encourage the use of all amateur satellites, both analog and
digital. Note that no points will be credited for any contacts beyond the ONE
allowed via each single-channel FM satellite. Operators are encouraged not to
make any extra contacts via theses satellites (Ex: SO-50). CW contacts and digital contacts are worth three points as outlined below.

1. Analog Transponders

ARRL rules apply, except:

- Each phone, CW, and digital segment ON EACH SATELLITE TRANSPONDER is considered to be a separate band.

- CW and digital (RTTY, PSK-31, etc.) contacts count THREE points each.

- Stations are limited to one (1) completed QSO on any single channel FM

satellite. If a satellite has multiple modes such as V/u and L/s modes both turned on, one contact each is allowed. If the PBBS is on - see Pacsats below,
ISS (1 phone and 1 digital), Contacts with the ISS crew will count for one contact if they are active. PCSat (I, II, etc.) (1 digital),

- The use of more than one transmitter at the same time on a single satellite
transponder is prohibited.

2. Digital Transponders

For the Pacsats (GO-32, etc.) or ‘Store and Forward’ hamsats, each satellite is
considered a separate band. Do not post "CQ" messages. Simply upload ONE greeting message to each satellite and download as many greeting messages as possible from each satellite. The subject of the uploaded file should be posted
as Field Day Greetings, addressed to ALL. The purpose of this portion of the
competition is to demonstrate digital satellite communications to other Field
Day participants and observers. Do not reply to the Field Day Greetings addressed to ALL.

The following uploads and downloads count as three-point digital contacts.

(a) Upload of a satellite Field Day Greetings file (one per satellite).
(b) Download of Satellite Field Day Greetings files posted by other stations.
Downloads of non-Field Day files or messages not addressed to ALL are not to be
counted for the event. Save DIR listings and message files for later "proof of
contact."

Please note AMSAT uploaded messages do not count for QSO points under the ARRL
rules.

Satellite digipeat QSO's and APRS short-message contacts are worth three points
each, but must be complete verified two-way exchanges. Remember, only one digipeat contact is allowed for the ISS and other satellites in this mode.

The use of terrestrial gateway stations or internet gateways (i.e. EchoLink, IRLP, etc.) to uplink/downlink is not allowed.
Sample Satellite Field Day Greetings File:

Greetings from W5MSQ Field Day Satellite station near Katy, Texas, EL-29, with
20 participants, operating class 2A, in the AMSAT-Houston group with the Houston
Amateur Television Society and the Houston QRP club. All the best and 73!

Note that the message stated the call, name of the group, operating class, where
they were located (the grid square would be helpful) and how many operators were
in attendance.

3. Operating Class

Stations operating portable and using emergency power (as per ARRL Field Day

rules) are in a separate operating class from those at home connected to commercial power. On the report form simply check off Emergency or Commercial
for the Power Source and be sure to specify your ARRL operating class (2A, 1C,
etc.).

AND FINALLY...

The Satellite Summary Sheet should be used for submission of the AMSAT Field Day
competition and be received by KK5DO (email or postal mail) by 11:59 P.M. CDT,
Monday, July 11, 2016. The preferred method for submitting your log is via e-
mail to kk5do(a)amsat.org or kk5do(a)arrl.net.

You may also use the postal service but give plenty of time for your results to
arrive by the submission date. Add photographs or other interesting information
that can be used in an article for the Journal.

You will receive an email back (within one or two days) from me when I receive
your email submission. If you do not receive a confirmation message, then I have
not received your submission. Try sending it again or send it to my other email
address.

If mailing your submission, the address is:

Bruce Paige, KK5DO
Director of Awards and Contests
PO Box 310
Alief, TX 77411-0310.

Certificates will be awarded to the first-place emergency power/portable station
at the AMSAT General Meeting and Space Symposium in the fall of 2016. Certificates will also be awarded to the second and third place portable/emergency operation in addition to the first-place home station running
on emergency power. A station submitting high, award-winning scores will be requested to send in dupe sheets for analog contacts and message listings for
digital downloads.

You may have multiple rig difficulties, antenna failures, computer glitches, generator disasters, tropical storms, and there may even be satellite problems,
but the goal is to test your ability to operate in an emergency situation. Try
different gear. Demonstrate satellite operations to hams that don't even know
the HAMSATS exist. Test your equipment. Avoid making more than ONE contact via
the FM-only voice HAMSATS or the ISS, and enjoy the event!

Complete copies of the rules and recommended submission form can be found on the
AMSAT web site.

2016 PDF Field Day Rules
http://www.amsat.org/wordpress/wp-content/uploads/2016/02/2016fd.pdf

2016 MS-Word Field Day Rules
http://www.amsat.org/wordpress/wp-content/uploads/2016/02/2016fd.docx

[ANS thanks Bruce, KK5DO, for the above information]

Tyvak Nanosatellite Systems to support Atlas V CubeSat Rideshare initiative

Tyvak is responsible for identifying, obtaining, and integrating CubeSat customers on the ULA Atlas V launch vehicle system.

Tyvak Nanosatellite Systems has signed a Memorandum of Understanding (MOU) with
United Launch Alliance (ULA) to serve as the primary Auxiliary Payload Customer
on CubeSat Rideshare Initiative efforts through Dec. 31, 2019.

ULA's CubeSat Rideshare Initiative enables rideshare opportunities on its Atlas
V launch vehicle and aims to tap into a growing market of small satellites with
applications in education, scientific research, U.S. Government and commercial
business. CubeSats are miniaturized satellites originally designed for use in
conjunction with university educational projects and quickly becoming a dependable tool for advance missions. CubeSats are made of one or more units,
called U's, measuring 10cm x 10cm x 10cm with a mass of 1.33 kilograms.

Under this MOU, Tyvak will provide low-cost access to space for both commercial
and U.S. Government CubeSat customers, as well as no-cost access to space for
Science, Technology, Engineering and Math (STEM) CubeSat customers for rideshares on ULA's Atlas V launch vehicles.

Tyvak is responsible for identifying, obtaining, and integrating CubeSat customers on the ULA Atlas V launch vehicle system. In addition, as part of the
agreement with ULA, Tyvak will provide for no cost up to three STEM CubeSat slots for each Atlas V 24U capacity launch opportunity for educational customers.

"Tyvak is thrilled to have been selected for this opportunity with a world-class
launch Provider like ULA," said Tyvak President and Chief Executive Officer Anthony Previte. "This MOU brings key opportunities to Tyvak and to the entire
nanosatellite community."

"As America's ride to space, ULA is transforming rideshares so that customers
will now have predictable manifest slots for their payloads," said Tory Bruno,
ULA president and CEO. "We are driving innovations like this program which will

make space more affordable and accessible for all manner and size of payload customers."

[ANS thanks SpaceDaily for the above information]

UK and Malta University Satellite Collaboration

The UK’s University of Birmingham, the University of Malta, the Malta Amateur
Radio League (MARL) and the Italian Astrodynamics company, GAUSS Srl are collaborating on a project to send a PocketQube satellite with an amateur radio
payload into space.

The Times of Malta newspaper reports:

The 5x5x5 cm device, referred to as a PocketQube pico-satellite, will be launched in 2018 into a sun-synchronous low earth orbit (LEO) and will be used
to validate on-board equipment that will study the properties the Earth’s ionosphere.

This project will pave the way for a swarm of eight such satellites that will
spread over a large geographical area and hence gain better coverage of changeable ionospheric conditions which affect radio communications.

The collaboration has brought together two Maltese post graduate engineering students – Darren Cachia in Malta and Jonathan Osairiis Camilleri (Ozzy), a Ph.D. student at the University of Birmingham – who have joined efforts and are
developing the satellite platform and the scientific payload respectively.

The mission is expected to last about 18 months and will relay information back
to Earth that will be accessible to anyone owning a simple ham radio set. Information will be made available in due course to allow schools and interested
individuals to participate using inexpensive equipment.

[ANS thanks AMSAT-UK for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive addi-tional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the stu-dent rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,

Lee McLamb, KU4OS
ku4os at amsat dot org